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THE CLAIMS

1. (Currently Amended) A method of manufacturing an active cooling panel, the method comprising the steps of:

~~providing~~ forming a first part of thermostructural composite material obtained by densifying a porous fiber preform with a matrix, said first part having an inside face presenting indentations forming channels;

forming a metal coating on said inside face of the first part including on said indentations;

~~providing~~ forming a second part of thermostructural composite material obtained by densifying a porous fiber perform with a matrix, said second part having an inside face for application on said inside face of the first part;

forming a metal coating on said inside face of the second part; and

prior to the forming of the metal coating on the inside face of at least one of the first and second parts, performing a treatment to reduce a surface porosity of the thermostructural composite material of said at least one part on the inside face of said at least one part, said porosity reduction treatment including the introduction of a filling material within surface pores of the thermostructural composite material;

assembling the first and second parts together by bonding said inside faces together by hot compression using said metal coatings, thereby obtaining a cooling panel of thermostructural composite material having integrated fluid flow channels, each having a respective inner surface, said hot compression being

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carried out at a temperature below the melting temperature of the metal used for bonding said parts;

~~wherein the parts are assembled together by bonding said inside faces together by hot compression, and~~ wherein said hot compression causes a sealing metal coating to form on and around each of said ~~linear~~ inner channel surfaces and wherein said porosity reduction treatment enhances leakproofing of said inner channel surfaces on the side of said at least one part.

2. (Original) A method according to claim 1, wherein the bonding is implemented by hot isostatic pressing.

3. (Original) A method according to claim 1, wherein the bonding is implemented by pressing the parts in a hot press.

4. (Cancelled)

5. (Original) A method according to claim 1, wherein for the bonding by hot compression, a metal foil is interposed between said inside faces of the parts provided with metal coatings.

6. (Original) A method according to claim 1, wherein the metal coatings are formed by forming first and second superposed deposits, the first deposit having a function of forming a reaction barrier between the components of the thermostructural composite material and the second deposit, and/or a function of matching thermal expansion, and the second deposit contributing to bonding between the parts by hot compression.

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7. (Previously Presented) A method according to claim 6, wherein the first deposit is selected from the group consisting of rhenium, molybdenum, tungsten, niobium, and tantalum.

8. (Original) A method according to claim 6, in which the first and second parts for assembling together are made of composite material including silicon, wherein the first deposit is of rhenium.

9. (Previously Presented) A method according to claim 1, wherein the metal of the metal coating enabling bonding by hot compression is selected from the group consisting of nickel, copper, iron, and an alloy of at least one or more thereof.

10. (Previously Presented) A method according to claim 9, wherein the metal enabling bonding by hot compression is selected from the group consisting of nickel and a nickel-based alloy.

11. (Original) A method according to claim 1, wherein the metal coating is formed at least in part by physical vapor deposition.

12. (Original) A method according to claim 1, wherein the metal coating is formed at least in part by plasma sputtering.

13. (Original) A method according to claim 1, wherein said inside faces of the parts are provided with metal coatings by hot isostatic pressing using a metal foil.

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14. (Original) A method according to claim 13, wherein the first part is assembled with a metal foil that has previously been shaped to match the indentations of the inside face of the first part.

15. (Original) A method according to claim 13, wherein the foil forming the metal coating is made of a metal selected from niobium, molybdenum, tungsten, tantalum, and rhenium.

16. (Cancelled)

17. (Currently Amended) A method according to claim ~~16~~ 1, wherein said porosity-reducing treatment comprises: applying a suspension to ~~at least one of said inside faces of the parts~~ the inside face of said at least one part, the suspension comprising a ceramic powder and a ceramic material precursor in solution, and transforming the precursor into ceramic material.

18. (Original) A method according to claim 17, wherein the ceramic material precursor is a polymer which is cross-linked and transformed into ceramic by heat treatment.

19. (Original) A method according to claim 17, wherein, after transforming the precursor into ceramic material and prior to forming the metal coating, a ceramic deposit is made by chemical vapor infiltration or deposition on said inside faces of the parts to be assembled together.

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20. (Original) A method according to claim 1, wherein the parts to be assembled together are made of ceramic matrix composite material.

21. (Original) A method according to claim 20, wherein the parts to be assembled together are made of ceramic matrix material in which the matrix is constituted at least in part by silicon carbide.

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